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THE VETERINARY JOURNAL

A Monthly Review of Veterinary Science.

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JUNE, 1924.

Editorial

THE PROGRESS OF VETERINARY SURGERY IN RECENT YEARS.

THOSE who have the advance of our profession at heart cannot but feel a considerable amount of gratification at the scientific progress which has been made in, and the successful position held at the present time by, Veterinary Surgery. Owing to a proper appreciation of asepsis and the use of radiography, together with the enormous and humane help which is afforded by the use of anæsthetics, the veterinarian of the present day is able to do surgical operations which his forefathers would have deemed impracticable and impossible. Apart from what may perhaps be termed "fancy" surgery, such as the insertion of false teeth and glass eyes, the fitting of false legs, and new innovations like the testicle grafting operation described in this issue, the general practitioners who will unhesitatingly and successfully operate upon an abdomen, perform laparo-enterotomy for the removal of a foreign body from the intestine, perform ovariotomy or ovaro-hysterectomy, Cæsarean Section, and such like, are to be found in all parts of the Empire; and specialists in surgery, who do practically nothing else, can be found within easy reach to take the responsibility off the shoulders of those who do not care to operate themselves. Of necessity, many delicate and serious operations rèquire collaboration between two qualified men, one to act as anæsthetist, the other being thus enabled to confine his entire attention to the surgical part; and in this we are not alone, as our medical *confrères* know full well

the necessity for care in this respect. The distance between practitioners, the fact that the patient often has only an economic value, and the comparatively small fees obtainable, are the chief drawbacks to more work being done in unison.

When one considers the difficulties of the veterinary surgeon as compared with his human *confrère*, one wonders really that progress is made at all. Our patients cannot be returned to a nice bed with snowy white sheets and all other modern conveniences of the human nursing home ; and the after-treatment is often where the failure to bring a brilliant operation to a successful conclusion arises. Notwithstanding all this, one has only to look back through the columns of our professional press to see that major operations on the chest, abdomen, bladder, limbs, and indeed every other part of the body, are successfully undertaken daily both by practitioners and specialists.

Concentration of thought upon any special subject, together with natural aptitude and fondness for it, form the groundwork of the specialist, and there is an undoubtedly good future in this path for the smart young graduate who will patiently carve his way in this direction. Veterinary surgery has advanced enormously during recent years, and we have by no means yet reached the summit. It is in the surgical sphere above all others that the clinician can shine, not only by recording his successes, but also by laying stress upon the lessons which he learns from his failures ; and the excellent response of our readers, which has for some years enabled the VETERINARY JOURNAL to record thousands of exceedingly valuable clinical reports, has formed most interesting and valuable reading ; an encouragement to our younger and less experienced graduates to "carry on." Surgery has always received its full and fair proportionate share of attention in this respect, and there is no doubt that the experience gained by attendances at practical demonstrations before the Veterinary Societies and, more recently, in the Royal Army Veterinary Corps hospitals during the Great European War has made many a veterinarian a surgeon where, before having these opportunities he thought a good many times before daring to use the knife. The various operations for quittor, those for poll evil and sinuous withers, the "roaring" operation, to mention only a few, were done in war time *per* force of circumstances by those who had never dared to attempt such things before, and done successfully too ; and in connection with the latter it is worth drawing special attention to the fact that the lead in this respect has been given to human surgery by the veterinary profession, and a human patient (whose life was a misery and in constant jeopardy before the operation was performed) is living evidence that the tracheotomy tube can be dispensed with in certain cases of

throat lesions in mankind ; just in the same way as has been proved by many thousands of operations upon roaring horses that this animal can be restored to utility by the operation at present performed.

THE "ROARING" OPERATION APPLIED SUCCESSFULLY TO A HUMAN PATIENT.

Two articles at least of those appearing in this month's issue of VETERINARY JOURNAL will be of especial interest to members of the veterinary profession as illustrating how, if properly brought before the members of the human branch, we may benefit not only our legitimate animal patients, but even that higher animal, man himself. As is well known, the operation of ventricle-stripping for "roaring" in horses, first brought prominently before the profession in America by Williams and afterwards modified and taken up in this country so successfully by Hobday, has now satisfactorily stood the test of over fifteen years' hard criticism. Professor Hobday made it the subject of two papers before gatherings of medical men, once before the Laryngological Section of the Royal Society of Medicine, and the other in March 1911, at the Summer Meeting in June 1921.* At each meeting some of the most distinguished human laryngologists were present and discussed Professor Hobday's suggestion that perhaps the operation which had dispensed with the permanent wearing of the tracheotomy tube in the horse might be modified so that it could be adapted to, and bring about the same happy result in, human patients.

Dr. Irwin Moore and Dr. Vlasto, two distinguished London laryngologists, seriously took the matter up, and, after numerous dissection observations on the cadaver, Dr. Irwin Moore elaborated a method which seemed to give a promise of success. This is described under his name in this month's issue.

It now remained to await the appearance of an unfortunate, but favourable, subject upon which, as an alternative to the discomfort of tracheotomy and the perpetual wearing of a tube, this cordopexy adaption operation could be tried ; and Mr. Musgrave Woodman, F.R.C.S., whose clinical description is given on another page, has the honour of being the first to apply the idea in practical form to human surgery. Our readers will be pleased to read that the result has been a great success.

A further instance of the value of the newly formed Comparative Medicine Section of the Royal Society of Medicine and of the practical utility of a closer collaboration between the human and the veterinary branches of medicine.

* Reported in the *Proceedings of the Royal Society of Medicine*, the *Veterinary Record*, and the *Journal of Laryngology and Otology*.

THE EDINBURGH COLLEGE CENTENARY SCHOLARSHIP RESEARCH FUND.

THE result of the appeal for funds to establish the above Bursary has been most gratifying, although we understand that it has not quite attained the sum at which it aimed. The list is not yet, however, closed, and any of our readers who have not yet contributed have still the opportunity. Veterinarians in the province of Ulster, headed by Mr. J. Ewing Johnston, M.B.E., M.R.C.V.S., were especially energetic, and their response to the appeal yielded no less than £715 to the Fund. The profession in Ulster has always been in the van when good work has required support, for it will be remembered that during the war they contributed a cheque for no less than £1,000 to the R.A.V.C. Comforts Fund. It seems almost a pity that it is not possible to import a few of these enthusiasts over to this side of the Irish Channel in order that they might infect some of the lethargic members of the profession whose only thought is to take all for themselves and give nothing back in return.

A NEW COLONIAL VETERINARY SCHOOL AND DIPLOMA.

ACCORDING to the Report of the Veterinary Department of the Gold Coast Colony from January 1922 to March 1923, the Gold Coast Veterinary School was opened by the Chief Commissioner of the Northern Territories on September 14, 1921, with the object of training Africans for Government Service in West Africa, and instructions are given in Veterinary Science with the Diploma of Veterinary Graduate, Gold Coast Colony, to those who pass the prescribed course of three years' studies.

The Lecturers of the School are the Principal Veterinary Officer (Captain W. P. B. Beal), Mr. A. E. Miller (Inspector of Live Stock), and Mr. Gurbakhsh (Veterinary Superintendent). A certain Civil Service Educational Matriculation Examination is required upon entrance, and the fees are £12 per annum. The Spring Session commences on January 15th and ends on June 30th, and the Autumn Session on July 22nd, terminating on November 30th.

Properly trained native assistants are undoubtedly useful, as their knowledge of the people and their greater facility in being already acclimatised makes their services under British direction an advantage. This need has undoubtedly been felt by Captain Beal and the other representatives of the Government, and if the response is satisfactory there is no doubt the project will be justified. Whether the Diploma will be recognised in India or other native colonies will depend upon the attainments acquired. It is a pioneer effort, and the sequel will be watched with considerable interest.

XUM

General Articles

OVARIOTOMY OF COWS: A NEW METHOD OF RESTRAINT AND A SUGGESTION.

By T. le B. REVINGTON. M.R.C.V.S.,
Government Veterinary Officer, Omaruru, S.W. Africa.

The spaying of cows by Charlier's method has been adopted in South-West Africa with very beneficial results. Conditions in this country, with its unfenced farms and indifferent native labour, make the spaying of cows an imperative matter, if they are to be turned into saleable slaughter stock when their utility period is over, and if the breed of cattle is to be improved. It is almost impossible to keep cows away from bulls and to cause them to fatten for slaughter without spaying. There are no paddocks to keep them in, and there are many bulls of the " scrub " type in the bush that are willing to oblige the old cows when they stray in search of a service. Consequently, unspayed cows are in calf every year, in spite of efforts to isolate them for fattening, and in bad years these old cows usually are too poor in condition to rear their calves, and they are quite useless as slaughter stock. As they are unsaleable when poor, their fate usually is to die on the veld from poverty of condition.

When one considers that the price of an oldish cow, in fair condition, as a cow, is in this country from seven and sixpence to fifteen or seventeen shillings per head, and that fat, spayed cows fetch from seventy to ninety shillings per head, the very great economic gain accruing from this operation will be realised. On one block of farms it has been calculated that spaying the old cows and the cows that are useless from a dairying point of view will bring in an additional £300 income for the first year, and about £100 additional each succeeding year in which cows are spayed.

The advantages from a point of view of improving the breed are many. The " bush " cows, that is the wild, unmilkable animals, the poor milkers, the " scrub " cows, heifers that have been spoiled by conceiving while they are only calves themselves, and cows that are, for any reason, not likely to improve the herd or to be worth their feed, can be spayed, and so prevented from propagating their unwanted kind. Time is money, so with a large number of cows to be done, without wasting days and days over the work of spaying, it is essential that the operations be carried out quickly. The methods of restraint that were in vogue here were not satisfactory. The subject had too much liberty, and was able to offer sufficient resistance to the manipulations to make the work dangerous (to the cow) and tedious

to the operator, as well as allowing only a small number of cows to be spayed each day. One of the first lot of cows that the writer operated on, under the old methods of restraint, threw herself backwards and downwards, kicking at the same time, and the knife penetrated the aorta. We ate some of the meat at lunch next day.

The operation had to be economically sound from both time and casualty points of view, so a better means of restraint had to be

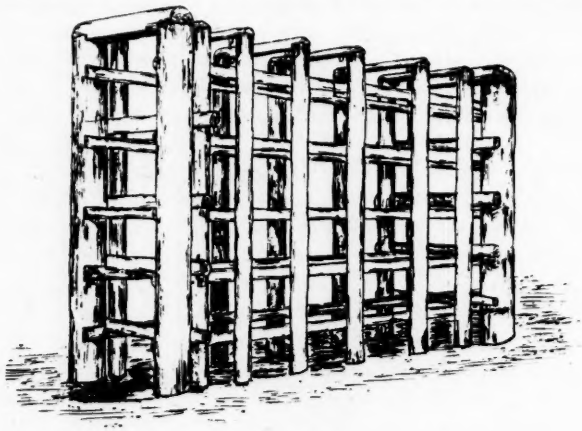


FIG. 1.—Spaying-Crush. Perspective Sketch.

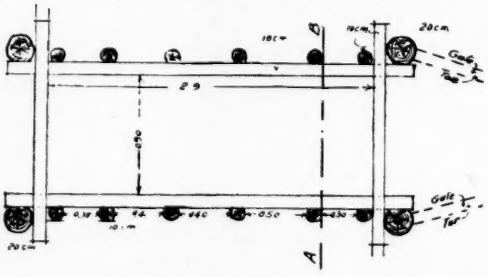


FIG. 2.—Ground Plan.

evolved. After some experimentation, the writer evolved the tackle herein described, and has found it, after severe testings, to be very effective as a method of control, and that the risk to the cow being operated on is nil. It also saves the operator a considerable amount of fatigue. The cost of the various items necessary for carrying out this method of restraint is, at most, £15 (at South-West Africa prices), which cost is recovered on the first five or six fat spayed cows that are sold for slaughter.

The pain caused by this operation is not as great as that caused by the castration of the half-grown or adult male—when the spaying operation is properly performed—and by this (Charlier's) method it is not as great as when done by the flank-incision method. Having spayed a few hundred cows by Charlier's method and several by the flank incision, the writer can vouch for this statement. The flank-incision method is not a practicable operation in this country, where the operation wound cannot be attended to properly or regularly. It might be carried out during some of the winter months without any considerable losses, but in summer time in South-West Africa the losses would be too great.

The illustrations given of the sling, the spaying-crush, and the

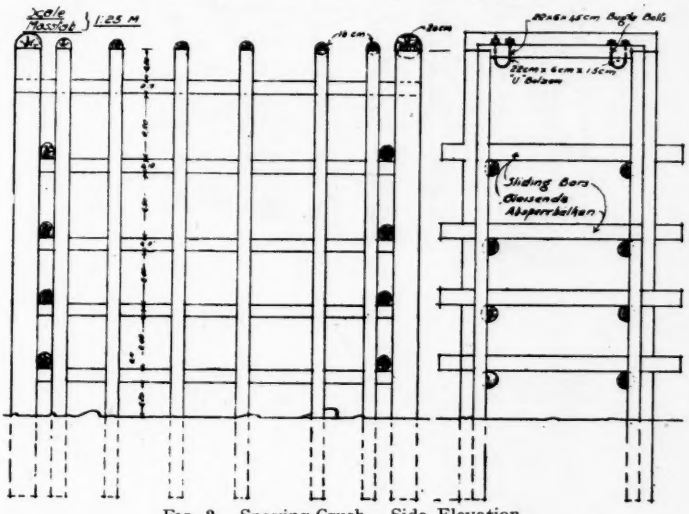


FIG. 3.—Spaying-Crush. Side Elevation.

arrangement of the kraals and crushes, are almost self-explanatory, but a short description of the method of using the sling and of the operation, as it appears to the writer, will doubtless be useful.

The sling consists of four jointed oval iron rings, one for each limb; a plate of iron, which is covered with a stout piece of leather; one small round iron ring at each side, and the whole connected with wire-rope or light chains. The sling has to be very strong, and the jointed rings of a size that will fit comfortably, but not too loosely, above the stifle and the elbow joints. Care has to be taken that the udder is not caught by the hind rings before the hind limbs are hoisted off the ground. The dimensions are given with the illustration of the sling and are given in centimetres. (The German translation

is also given because a similar article has been published in a German technical journal circulating in South-West Africa, and one negative had to be prepared showing both languages.)

A cattle crush with overhead, horizontal beams, furnished with ropes, hooks and pulleys, is also necessary for the slinging of the cow. The most convenient size is that according to the measurements given with the illustration of the ground plan, published herewith. Measurements in centimetres.

One pulley block is required for each of the fore limbs and two for each of the hind limbs. The joints of the fore-limb rings are to the back of those rings, those of the hind-limb rings to the front. At the front of the front-limb rings, where the two sides meet, there are two holes in the iron in both rings, to receive the hooks on the ends of the fore-limb ropes; in the hind-limb rings these holes are to the back, and these holes are large enough to receive the hook of the bottom pulley block. These are shown in the illustration.

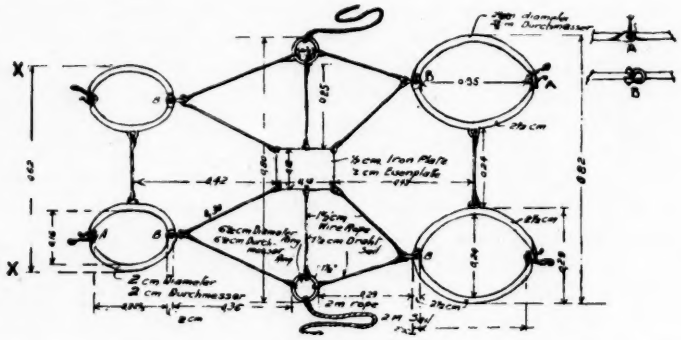


FIG. 4.—Spaying-Sling. Oval rings, wire connecting ropes and centre iron plate covered with leather. Side rings not covered. Four oval rings to be made with hinged joint and "D" at B. At A both sides have eyelets to receive hooks.

A reim is placed round the base of the cow's horns and is made fast to the front of the cattle crush. The sling is placed under the cow's belly, the limb-rings opened and placed round the limbs, the hooks hooked in, and the fore-limb ropes pulled taut, without raising the cow's fore limbs off the ground. The centre ropes are then pulled taut, or they may be left until the hind-limb ropes have been tightened. The hind limbs are then swung clear of the ground, about 20 centimetres, by traction on the ropes through the double pulley blocks. Almost invariably the cow lies quiet in the sling and she is then in an almost ideal position for the carrying out of the operation.

She cannot get out of the sling, the intestines roll forward out of the way, and the operation, when performed by a practised hand, is over in a few minutes.

The fixing of the sling on the cow does not take long, except in the cases of a few exceptionally wild animals, and the natives soon learn how to adjust it quickly and well.

The thrust of the uncovered knife through the vaginal wall must be made in a downward and forward direction, between the rectum above and the uterus below, because the cow is now in a slanting position with the hind limbs raised. After washing the external genitals, tail and thighs with carbolic soap, nail-brush and a strong solution of disinfectant, the vagina is ballooned by irrigation with cold, mild solution of disinfectant. The best method of irrigating is by using a " Success " or other good pump. Before proceeding with the operation, the disinfectant solution has to be removed by the hand.

No vaginal speculum is necessary—in fact that instrument is a nuisance and a waste of time, as the cold water causes the vagina to balloon to its full extent. Having removed the water, the lubricated hand and arm is introduced, holding the bistoury cachée with the cover over the blade. The os uteri is then located. The incision site is from $2\frac{1}{2}$ to $3\frac{1}{2}$ centimetres above the os uteri, depending whether the uterus lies higher or lower in the particular cow that is being operated on. Sometimes the os uteri is found at the bottom of the vagina, in other cows it is as far as halfway up the vaginal wall. The lubrication of the hands and arms should only be done by lathering with carbolic soap, after disinfection, because oily lubricants or fats collect dust and dirt, and fat and oil are not easily washed off. The site having been decided on, the knife is uncovered, placed against the point selected, and the blade boldly thrust through the wall and into the abdomen. The thrust must be of sufficient force to go through both vaginal wall and peritoneum at one thrust, otherwise there is a great deal of extra trouble and danger in puncturing the peritoneum when it has been pushed forward from the vaginal wall.

The opening made by the knife is small, so it has to be enlarged by thrusting the forefinger and then the fore and second fingers through the wound. The fingers are thrust in as far as the knuckles, so that the opening is slightly larger than one made by two fingers not thrust in as far as possible. The right ovary is the more difficult to remove with two fingers because it lies opposite to the way that the right hand naturally bends, so it is better to find and remove it first. The operation is simple. The ovary is located by following either the broad

ligament or the horn of the uterus, whichever is most convenient, and grasping the ligament between the fingers with the ovary to the palm side of the fingers. In the non-pregnant cow little difficulty is encountered in bringing the ovary to the wound in the vaginal wall, and a little practice teaches one how to bring it quickly through the wound and into the vagina. Care must be taken that traction is not on the ovary itself; it is easy to tear it out of its coverings and to separate it from the ligament in so doing. This gives rise to internal hæmorrhage, which may or may not be fatal.

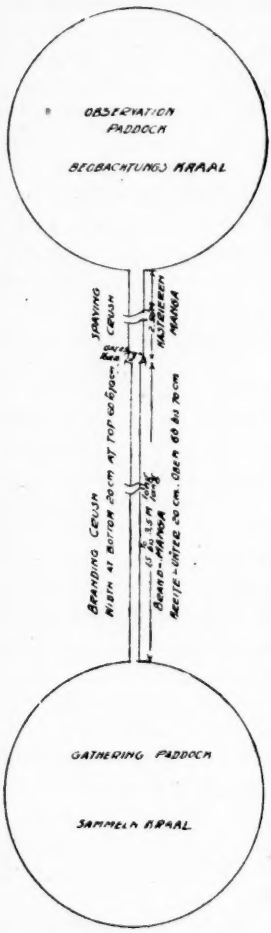


FIG. 5.—Spaying-Crush. General Diagram.

An assistant introduces the ecraseur into the vagina under the operator's arm, the ovary is passed through the loop of the chain and is held well clear of the chain, so that only ligament is severed when the chain is tightened. The ovary must be intact and have a fringe of severed ligament when it is removed. The left ovary is then removed.

The pelvis is then lowered by loosening the hind-limb ropes, leaving the middle and fore-limb ropes still fastened, and the vagina is irrigated with a mild solution of disinfectant. One hand is introduced into the vagina with the nozzle of the pump-tubing to prevent the solution being pumped into the peritoneal cavity. The lowering of the pelvis of the cow, leaving the front and middle ropes taut, causes the animal to lower her pelvis to well below the level of her back, and so causes the disinfectant solution that is used in cleaning out the vagina to gravitate out through the vulva, and so obviates the risk of pumping disinfectant solution through the wound in the vaginal wall. The cow is then released and the next cow placed in the sling.

No after-treatment is necessary, but it is as well to keep the spayed cows quiet for a week or so and to keep them away from bulls, etc.,

although the writer has not yet observed any ill effects resulting from letting the cows graze with the herd.

It would not be much use doing the operation quickly if arrangements were not also made for the cows to be spayed to come in quick succession into the spaying-crush. To obviate delays in bringing in the cows, the arrangement of kraals and crushes shown in illustration No. 1 has been adopted. The usual branding and inoculating crush, is built leading out of the gathering kraal, and the spaying-crush, which is considerably wider, is built at the other end of the branding-crush. The cows are brought into the gathering kraal the day before the operation, and they are only allowed to have water. Just before the operations commence the branding-crush is filled with cows and a reim placed on each cow's horns. As soon as a cow leaves the spaying-crush her place is quickly taken by the next cow from the branding-crush, thus making sure of a constant stream of cattle and of wasting no time. There is a small door on each side, between the branding- and the spaying-crush to allow the operator easy access to the rear of the cow.

From thirty to sixty cows can be spayed in a day's work, using this system by a competent spayer, the number depending on the wildness of the cows, the aptitude of the natives for doing their part of the work quickly, and the number of pregnant cows that are brought for operation.

The average annual losses come to about 1 per cent.

The operation differs from that described when the subject is pregnant. Up to the end of the fourth month pregnancy makes little difference, but after that time the gravid uterus precludes bringing the ovary into the vagina. One of the ovaries might be brought in to the vagina easily enough, but the other is almost certain to be torn off if the attempt is made to bring it to the wound in the wall. In pregnant animals, beyond the fourth month, the whole hand has to be introduced into the abdomen, thereby making a wound of considerable size, with a consequent greater risk of sepsis and of bowel-protrusion into the vagina. In these cases the ecraseur has to be brought into the abdominal cavity with the hand, and the removal of the ovary carried out in the abdomen. When doing this, great care has to be observed not to include a portion of the small intestine in the ecraseur loop. We usually advise that cows advanced in pregnancy be left over until the birth of the calf has taken place, and that the operation be carried out about six weeks after parturition. At the end of this period, after the birth of the calf, the organs of generation have returned to normal.

In all cases of spaying, the writer strongly disencourages the use

of more than two fingers in the abdomen ; but if an owner wants all his cows spayed, whether they are pregnant or not at one time, the extra risk is pointed out to him and the work carried out.

The method by which only two fingers are used and the ovary is brought into the vagina is vastly superior to the method by which the whole hand is introduced into the abdomen and the operation done amongst the abdominal organs. The number of deaths following the former method are very considerably fewer, though the latter method can be carried out somewhat more quickly at an added risk.

The writer has found that Hobday's pattern of ecraseur, 21¼ inches long, is the most convenient to use for the vaginal operation, but that a longer instrument and one with the tube for the chain extending the whole length of the instrument is the more convenient for the abdominal operation in pregnant cows.

It has also occurred to the writer that a diagnosis of salpingitis or of cystic ovaries in cases of sterility, with or without nymphomania, could be more easily and more surely arrived at if the ovaries were palpated directly through a one- or a two-finger opening in the vaginal wall than by palpation through the rectum.

Under the usual aseptic precautions the risk is nil, and the squeezing-out of the cysts, especially the centrally embedded cysts, could be easily accomplished, and the cyst or cysts brought out of the abdomen for examination. It would also be easier to check any hæmorrhage that might occur from the removal of the cysts.

This is merely a suggestion. There are a few sterility cases in the district on which this method of diagnosis will be tried when opportunity occurs.

OPERATIVE PROCEDURES IN MAN AND ANIMALS FOR THE TREATMENT OF STENOSIS OF THE LARYNX CAUSED BY BILATERAL PARALYSIS OF THE ABDUCTOR MUSCLES.*

By IRWIN MOORE, M.B., M.Ch.,
Late Surgeon to the London Throat and Golden Square Hospitals.

Professor Hobday[1] recently suggested on two occasions in papers read before the Section of Laryngology, Royal Society of Medicine, that it might be possible to permanently reopen the airway in cases of double abductor paralysis, by the operation of ventriculectomy, as carried out in the horse for "roaring" (unilateral recurrent paralysis). It has made me think we might try something more than tracheotomy

* Abstract made by the author from a paper read before the Section of Laryngology, Royal Society of Medicine, on February 2, 1923. See *Proc. Roy. Soc. Med.*, 1923, XVI. (Sect. Laryngol.), pp. 32–40.

for those unfortunate people who suffer from this distressing condition, as that procedure is a life-saving device only and leaves the patient dependent for life on a cannula. Can the airway in these cases be reopened and respiration through the natural passages restored ?

The adductor and abductor muscles of the vocal cords are supplied by the inferior laryngeal nerves, and a destructive lesion in the nerve, or in its centre in the medulla, paralyses first the abductor muscles and, later, the adductors. In double abductor paralysis it is the unopposed action of the crico-arytenoideus lateralis with paralysis of the crico-arytenoideus posticus and the thyro-arytenoideus which draws the cords into the laryngeal airway and produces the stenosis ; the cords become flaccid, will not separate, and their edges flap up and down. Complete paralysis of the recurrent nerves, in which the cords lie in the cadaveric position, usually obviates urgent dyspnœa and the necessity of tracheotomy, as there is enough airway.

Bulbar lesions are the most common causes of this condition ; 90 per cent. of the cases are tabetic in origin. Of fifty-three cases of abductor paralysis recorded between 1892 and 1898, only six developed complete recurrent paralysis. Of the remainder twenty-two had unilateral and twenty-five bilateral abductor paralysis, showing how small a chance there is that the cords will reach the complete paralysed stage (cadaveric position).

Operative Treatment.

It is said that opening the air-way by operation should not be attempted in the first six months, as recovery may occur spontaneously : Chevalier Jackson [3] advocates waiting a year, beyond which time the latter event is no longer within the sphere of probability. But a disability attaches to certain operative procedure after a year's delay, because of the contraction and atrophy of the thyro-arytenoideus muscle, or fixation of the crico-arytenoid joint.

The following operations have been attempted in the past for the relief of this condition :—

(1) *Simple Division of the Recurrent Nerves, with the Object of Placing the Cords in the Cadaveric Position to Relieve the Stenosis.*— The results of this procedure have been very disappointing, and Chevalier Jackson [3] regarded the operation, in the one case on which he tried it, as a failure. The cause of the want of success is, probably, the shortening of the adductors owing to the period during which they have remained contracted without any antagonism.

(2) *Re-establishment of Nerve Continuity by Resection and Anastomosis : (a) Without Transplantation, (b) With Transplantation of the*

Recurrent with the Pneumogastric Nerve.—The use of this is limited to recent cases having peripheral cervical lesions, that is, as a sequel to thyroidectomy.

(3) *Cordectomy* (*Excision of Vocal Cords only*).—This has been carried out by (*a*) the indirect method with the laryngoscopic mirror, or directly with the aid of the autoscope of Kirstein; (*b*) by thyro-fissure. It has failed because of the excessive granulations which follow the operation, necessitating the insertion of the tracheotomy tube.

(4) *Arytenoidectomy.*—This operation was employed by veterinary surgeons (from 1834 to 1905) on horses for the relief of "roaring" caused by paralysis of the left vocal cord. It was first performed on man by Ivanoff[2] in 1911, the patient being a male with syphilis who had been tracheotomised and whose cords were abducted. Unilateral arytenoidectomy was performed, but later the cord became loosened, the obstruction recurred, and the cord had to be partially removed. In a few other recorded cases the results were also unsatisfactory.

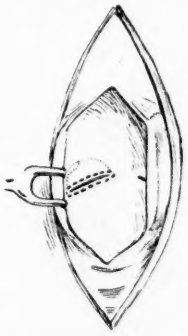
(5) *Ventriculectomy, or "Stripping" of the Lining Membrane of the Ventricle.*—In 1906 Williams[12] (Cornell University, U.S.A.), finding that removal of the cords with their muscles in the horse predisposed to recurrence of stenosis, originated *per se* excision of the lining membrane of the ventricle. He excised the everted ventricular mucosa, putting out of action the adductor power of the vocal cords, which became attached, by cicatricial contraction, to the lateral wall of the larynx, in a position of forced abduction. Since that date, veterinary surgeons have preferred ventriculectomy to arytenoidectomy in cases of recurrent nerve paralysis. In 1910 Professor Hobday[1] considerably improved the operation by entering the larynx through the cricothyroid membrane only, and stripping both ventricles at the same time. Sargnon and Toubert[7] suggested, in 1914, that ventriculectomy should yield equally favourable results in the human subject, and they concluded that while it was easy to perform in the horse because the operator could introduce the end of his index finger into the ventricle, it was very difficult to perform in man, even on the cadaver, and that in the human subject the only method applicable was by scraping and curettage of the membrane.

In 1921 Hobday[1] suggested that ventriculectomy as performed on the horse might be applicable to man in cases of double abductor paralysis, but Vlasto[11] in the same year contrasted the anatomy of the parts in man and in the horse, showing that in the latter the ventricle and sacculus form one large cavity which extends downwards below the vocal cord, and lines its outer surface, and that its

attachments are very loose, so that it could easily be stripped off in one piece, leaving opposed raw surfaces, which, adhering, cause a lateral retraction of the vocal cord. In man the ventricle is very difficult to evert in the same manner. Hence Vlasto does not regard the operation as practicable or possible for the human subject.

Monselles,[5] of Florence, in 1900, attempted to reproduce eversion of the ventricle artificially in thirty-three human subjects after death, but without success, for in each case the superficial layers of the mucosa, instead of the whole thickness of mucous membrane, was torn in the attempt to draw out the lining membrane of the ventricle.

Piersol[6] pointed out that in man the upper surface of the true cord slants only slightly downwards and outwards. It is, therefore, doubtful whether the superior and outer surface of the cord, if stripped of its membrane, is of sufficient extent to adhere to the raw



VENTRICULECTOMY IN MAN.

A thyro-fissure has been performed. The broken lines show the incision through the mucosa surrounding the orifice of the ventricle. The dotted lines represent the outline of the ventricle together with the opening anteriorly of the sacculus.

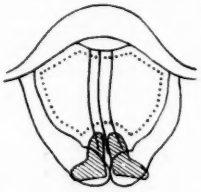
surface of the lateral wall of the ventricle and so cause lateral retraction.

I have found, in operating on the cadaver, that the ventricle and sacculus cannot be everted and removed by the same method as in the horse ; in every case the forceps tore through the mucosa. But by dissection it is possible to detach and remove the ventricular lining in one piece if, after complete dissection, it is excised at its anterior attachment to the mouth of the sacculus, the sacculus being left *in situ*. It is very difficult to detach the sacculus, either with the ventricle or even after removal of the ventricle, because of the firm attachment of the suspensory ligament of Hilton, which slings up and supports the sacculus. And the mucous membrane over the inner

surface of the sacculus is very thin, and so firmly adherent to the saccular wall that attempts at separation readily tear it. In only one case in ten attempts was I able to remove the sacculus along with the ventricle.

If removal of the ventricular wall is ever attempted for treating abductor paralysis in man, it will probably be found advisable to remove only the ventricular lining, leaving undisturbed the sacculus so that it can continue its mucus-secreting function. With regard to adhesion of the rawed surface of the vocal cord to that of the lateral wall of the ventricle, I suggest that temporary fixation of the vocal cord to the lateral wall by a suture through the vocal cord and thyroid ala and tied externally might encourage permanent adhesion and retraction.

(6) *Evisceration or Ablation of the Vocal Cord and the Soft Parts Lining the Larynx.*—This can be carried our endoscopically or by thyro-fissure. Jackson has had one successful endoscopic case, and states that he finds "evisceration" by thyro-fissure ideal where no other



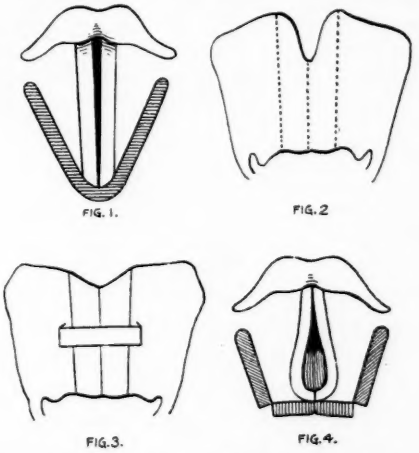
EVISCERATION OF THE VOCAL CORDS AND SOFT PARTS LINING THE LARYNX. The dotted lines show the parts removed. (After Chevalier Jackson.)

lesion is present beyond the actual bilateral paralysis, though he considers that endoscopic evisceration is preferable. Two of the patients he dealt with by the latter method had fairly loud voices and were permanently decannulated. In both of them not only the cord but also all its soft tissue was removed by dissection on both sides, leaving the perichondrium intact.

(7) *Ventriculo-cordectomy.*—This method, recently introduced by Chevalier Jackson, can be carried out either endoscopically or by thyro-fissure. Excision is made (by punch forceps) of the vocal cord along *with its supporting tissue forming the floor of the ventricle.* He has carried it out endoscopically in eighteen cases, under cocaine anæsthesia, without operative mortality. In eleven the operation did not open the airway because there was cicatricial stenosis, and other means had to be employed; in the other seven there was a relief of the dyspnœa.

Molinié,[4] of Marseilles, in 1913, suggested the possibility of deviat-

ing the paralysed vocal cords laterally from the mid-line by displacing the anterior attachments inwards (antero-posteriorly). On the cadaver he made an incision through the mid-line of the thyroid cartilage without opening the laryngeal cavity, i.e. he did not incise the internal perichondrium. Then two similar lateral incisions were made on each side 5 mm. from the mid-line incision, leaving two loose lateral pieces of cartilage attached to perichondrium, which could be pressed inwards towards the centre of the larynx and kept in position by a steel band, so reducing the antero-posterior diameter of the laryngeal box and causing deviation of the cords towards the lateral wall of the larynx. Thus in the cadaver he obtained an ovoid glottis. Thinking he could get the same result in a living subject, Molinié carried the operation out in a male patient aged twenty-five who had

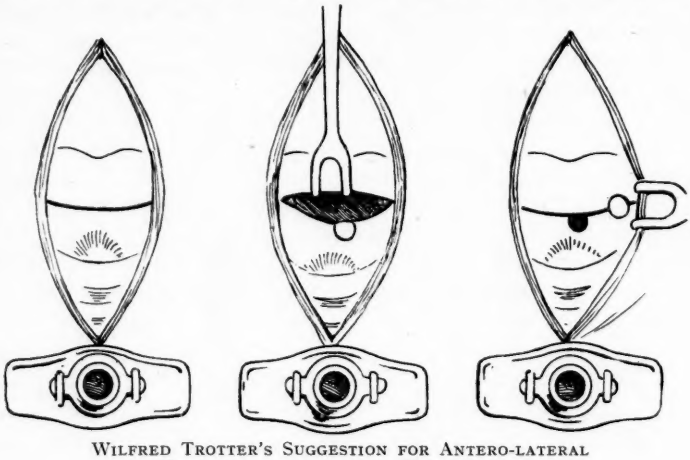


MOLINIÉ'S OPERATION OF ANTERO-POSTERIOR DISPLACEMENT OF THE VOCAL CORDS

bilateral abductor paralysis. It failed, and a tracheotomy tube had to be reinserted.

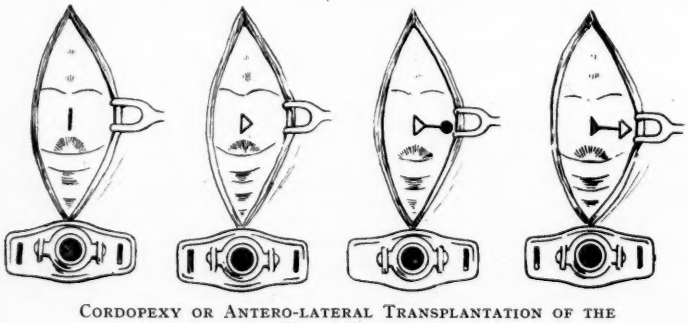
(8) *Cordopexy or Antero-lateral Transplantation of the Vocal Cord.* —In 1922 Wilfred Trotter[10] suggested a very ingenious method of dealing with cases of abductor paralysis with the idea of reopening the obstructed airway by transferring one, or both, of the paralysed cords from the middle line to the lateral wall of the larynx. He proposed that an incision should be made transversely across the middle line of the thyroid cartilage, a retractor inserted, and the larynx opened, so as to obtain a good view of the anterior insertion of the vocal cords. Having located these, the portion of cartilage

to which the cords are attached might be separated from the thyroid ala by a circular incision, drawn forwards and carried laterally along the transverse incision through the thyroid ala. On removing the



WILFRED TROTTER'S SUGGESTION FOR ANTERO-LATERAL TRANSPLANTATION OF THE VOCAL CORDS.

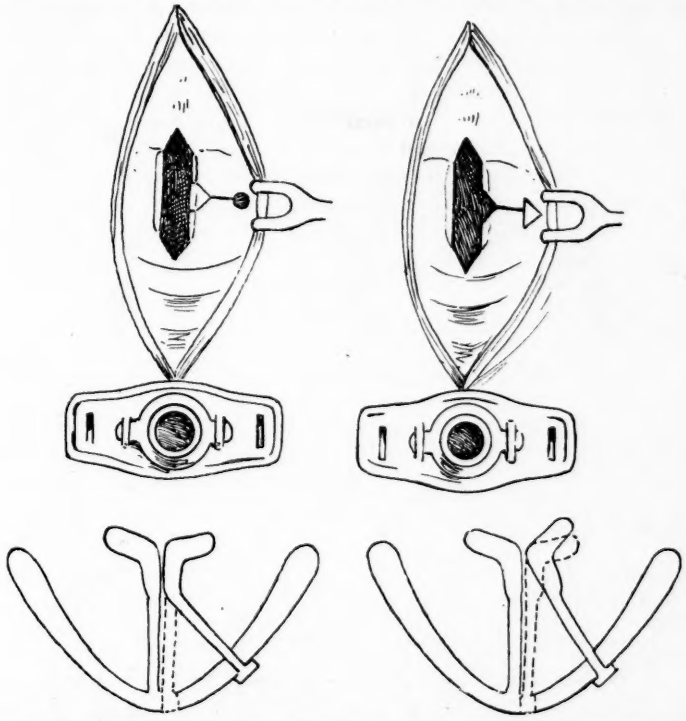
retractor, the separated halves of the thyroid cartilage would come together and fix the cords in their new position. Following out these suggestions on the cadaver, I found that the approach to the larynx by a transverse incision was not satisfactory, as one cannot accurately locate the anterior insertions of the vocal cords,



CORDOPEXY OR ANTERO-LATERAL TRANSPLANTATION OF THE VOCAL CORDS.
Shows the attempts, which failed, to localise the anterior insertion of the cords without a thyro-fissure.

which are separated from those of the false cords by only 2·5 mm. Later, the possibility presented itself of locating the origin of the vocal cords from the outside and reaching them through a small

incision in the middle line of the thyroid cartilage. Piersol pointed out that the true vocal cords arise a little above the middle of a line extending from the bottom of the thyroid notch to the lower border of the thyroid cartilage. Taguchi[9] showed that in men the average distance from the notch to the vocal cord is 8·5 mm., and from the lower border of the thyroid cartilage 10·5 mm. (in women the distances



CORDOPEXY—AS DEVISED AND RECOMMENDED BY THE AUTHOR (IRWIN MOORE). Shows in the upper figures a thyro-fissure followed by antero-lateral displacement of the vocal cord, and in the lower figures the glottic space obtained if the crico-arytenoid joint is mobile, or if the joint is fixed. It is obvious that when both vocal cords are transposed laterally, the glottic space secured is double that shown in the lower figures.

are 6·5 and 8 mm.). In both sexes the distance between true and false cords is 1·5 mm.

I thought of the possibility of ascertaining the anterior insertion of the cords from the outside of the larynx. After careful measurement, an incision ¼ inch in length was made through the centre of the middle line of the thyroid cartilage, and a bent probe inserted to locate the point of attachment of the cords. Then a piece of cartilage (forming

a triangle with the previous incision) was excised, to which, I concluded, the anterior extremity of the cord was attached. From the apex of the triangle another incision was carried laterally through the thyroid ala for a quarter of an inch. The separated triangular piece of cartilage was then drawn forwards and carried laterally between the cut halves of the thyroid ala. When the larynx was opened in the middle line, it was found that it was the ventricular band which had been transferred, not the true cord, so that one found that accuracy in defining the true cord could not be ensured in this manner ; and that this could only be assured by first performing thyro-fissure.

At the next attempt, thyro-fissure was first performed, a triangular piece of cartilage being excised (along with the attached cord), when I found that the anterior end of the true cord was not as free as in the other attempt, and that it could not be transferred laterally on account of the attachment of the perichondrium and muscular fibres of the thyro-arytenoideus. However, elevation of the perichondrium in the vicinity released the cord and permitted the piece of cartilage, with the attached cord, to be easily drawn along the horizontal incision and anchored. Professor Shattock [8] pointed out to me that strangulation of the tissues of the cord might ensue because of their being tightly gripped by the cut edges of the cartilage. To avoid this, a small half-circular piece of cartilage was punched out at the extremity of the horizontal incision, forming a circular opening in which the cord could lie. By this operation the vocal cord, or cords, could not only be displaced laterally, but also shortened antero-posteriorly, thus increasing the tonicity of the paralysed cord tissues. Transferring a cord $\frac{1}{4}$ inch from the middle line sufficed to fix it in the position of complete abduction.

The Voice after Operative Procedures.

In cases of double abductor paralysis, we have to deal with a very small glottic chink, which is closed more completely on inspiration ; there is strong inspiratory dyspnœa. The voice is normal or nearly so, but there is an accompanying stridulous noise. It is only in the later stage, when the adductor muscles are affected, that the voice is much altered.

Chevalier Jackson [3] says it was believed that permanent loss of voice followed excision of the cord, but two patients on whom he operated had a fairly loud voice, though a rough one, and speech was mainly in a monotone. Jackson also says that in all the seven successful cases of ventriculo-cordectomy the voice was " louder than an ordinary whisper, and loud enough to carry on an ordinary conversation in a reasonably quiet room."

Conclusions.

If we have an operative procedure by means of which a permanent cure of stenosis in cases of double abductor paralysis can be guaranteed, the natural airway reopened, and the patient decannulated, ought we not to carry this out in the early stage of the paralysis, even at the expense of some voice impairment, rather than await the uncertain occurrence of the complete stage of paresis, when the cords might possibly attain the cadaveric position? Disappearance of the paralysis in bilateral abductor paralysis is very rare, though it has been reported in a case due to syphilis, and in a few cases which Jackson refers to.

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XUM

AN ATTEMPT TO DEAL WITH "WINDSUCKING" BY SURGICAL INTERFERENCE.

By MAJOR GENERAL SIR FREDERICK SMITH, K.C.M.G., C.B.,
Fellow and Hon. Associate Royal College of Veterinary Surgeons.

On February 3, 1839, there was read and discussed at the Veterinary Medical Association of the Royal Veterinary College * a communication by Mr. Holmes, of Thirsk, on "Crib-biting and Windsucking." What strikes one in connection with this paper is that so far as the knowledge displayed is concerned it might have been written to-day. I cannot trace any new fact as having been added to our knowledge of the subject during the eighty-five years which have since passed. Now, as then, the cause is unknown; whether the condition is a symptom of disease or itself a disease is quite unsettled, and whether it should be regarded as a vice. It is difficult to understand why no serious attempt has been made—within my knowledge—to remove the subject from the region of speculation and deal with it on purely experimental lines. It would not appear to present insuperable difficulties to investigation, and when comparing with some subjects in medicine, for instance the pathology of diseases of the blood, one feels it to be a serious reflection on the profession that so little is known of a condition which is both important and economically wasteful. In this respect it does not stand alone. There would be no difficulty in compiling quite a formidable list of problems in everyday practice in which equally we are without precise information.

The object of this paper is briefly to detail some surgical procedures which were tried several years ago, though without success, for the prevention of "windsucking."

In the belief that, as the name implies, air is actually swallowed, it was thought that windsucking might be prevented by establishing a communication between the mouth and the nasal chambers. If the long soft palate of the horse was the anatomical explanation of the facility with which air is swallowed, it was only necessary to put it out of action in order to control the vice. It was accordingly divided throughout its whole length; the cut surfaces subsequently retracted, the edges curled in, cicatrised, and a cleft palate made. The operation required a special mouth-gag, capable of being regulated to the necessary height, The incision for safety was made with a broad-bladed fleam in the centre of the palate; into this first one and then two fingers were introduced and the palate lacerated up to the palatine arch in a forward direction, and similarly backward into the pharynx, until the last piece of mucous membrane could be felt to give way.

* *Veterinarian*, vol. xii, 1839.

The substance of the palate lends itself to this treatment. In view of the negative results obtained, I would not trouble to describe the operation but for the fact that there are conditions of the guttural pouches, especially with enlarged pedunculated lymphatic masses are found in their vicinity, which produce respiratory distress, or even asphyxia. These can be reached by this direct route in preference to the serious surgical procedure of operating from without. I found that a cleft palate did not prevent a horse from windsucking, so that it was evident an intact soft palate was not essential to the process of air swallowing.

The next thing tried was a metal clip introduced into both nostrils, and so shaped as to hang over the upper lip. It was hoped that this might act mechanically as a deterrent to taking hold of the manger, but in practice it was found quite useless. Even if it caused inconvenience in the performance of the act, this would be nothing to a confirmed crib-biter, who will put up with the pain, though the upper incisors be worn down to the gum and the pulp cavity exposed.

The last attempt was to perform a myotomy, the sterno maxillaris muscle being selected close to its tendon. Division of this on both sides produced no effect on the vice, and incidentally failed to demonstrate the particular utility of this muscle.

All the preventive measures known to us to-day were known and practised eighty-five years ago, and though a speaker at that time said he had cured one of his own horses by employing the usual neck-strap for a year, yet, as a matter of practice, we know that not only does it not cure, but with many horses may not even prevent the vice unless strapped up so tightly as to be harmful.

Probably all horses have in the first instance to press their upper incisors against the manger in order to be able sufficiently to arch the neck for the gulp. But the accomplished animal can windsuck without crib-biting—as it is conveniently, though not strictly correctly, called —and for these none of the ordinary appliances are of any use.

That the vice cannot be corrected by surgical measures shows the importance, from the point of view of prevention, of learning with exactitude the cause or causes of its production. If instead of swallowing air the animal eructates gas from the stomach, then it is obvious that no surgical measures are indicated, as it is better the gas should be brought up than distend the stomach.

It would be easy to draw up a list of points in connection with "windsucking" to be decided by observation and experiment. It seems an extraordinary fact that as a profession we have not settled the all-important question whether air is swallowed or gas eructated, though the matter is capable of being solved in a few minutes by experi-

ment. If the œsophagus of a condemned horse were divided and a tube inserted into the pharyngeal and another into the stomach portion, the dispute which has gone on for so many, many years would be settled forthwith.

Does windsucking arise from stomach trouble, or is it the cause of stomach trouble? In other words, is it a disease or a vice? I have assumed throughout my life that it was a vice, but the matter ought not to be left to assumption. Is it contagious, as many believe, that is to say, can it be learned by imitation? Personally, I have no doubt of it, but the matter should be submitted to a rigid test. Has the condition ever been met with in an unbroken horse? I never heard of such a case, yet it would be easy for those whose practice brings them in contact with unbroken stock to reduce this to exactitude by observation. If unbroken animals are, as I assume, absolutely free, it would prove that windsucking is one of the penalties of domestication. The next point is: Does the vice, or pathological condition, arise from idleness? What is the experience of those who, a few years ago, had veterinary care of the hard-worked omnibus and tramcar horses of the Metropolis? Forty-eight years ago I had experience in this group, but I hesitate to state my opinion, as my memory may be playing me false. I have no such hesitancy, however, in dealing with what may be conveniently termed the idle group. The soldier's horse for several months of the year passes a considerable part of his time in the stable. There are two pathological conditions which are thus engendered, one is navicular disease, the other windsucking. Is the vice or disease hereditary? One is inclined to believe that heredity plays an important part, but, again, evidence is wanting.

It will be a long time before horses disappear from this country, and there is consequently every reason why the practical problems raised in this note should be solved.

THE FIRST ADAPTATION OF CORDOPEXY TO HUMAN LARYNGEAL SURGERY.

By E. MUSGRAVE WOODMAN, M.S., F.R.C.S.,
Birmingham.

THE patient was a young girl of fifteen, with a somewhat tuberculous family history. She had had a very large goitre, and both lobes of the thyroid gland had been excised by another surgeon, resulting in double recurrent nerve paralysis of the larynx, and considerable dyspnœa was present. This was apparently due to softening with collapse of the trachea, and not to the condition of the cords.

I transplanted the left vocal cord, and fixed it in the centre of the

lateral cartilage. The patient had a good deal of coughing for two or three days afterwards, but made a complete recovery.

Her respiration has still the sound of stridor about it. I am of opinion that in all probability the slight stridor which is still present is due to softening of the trachea and to pressure on the ligaments lower down.

The case is not yet finished, and I hope to improve the result.

Commentary.—The criticism of the operation appears to me to lie in the fact that the arytenoid cartilage is not interfered with at the operation, and whereas the normal respiratory portion of the larynx is the posterior part, and as a rule the arytenoid cartilages are abducted in quiet respiration, in the present case, and in other similar cases, the arytenoids lie close together, and the opening allowed for respiration is anteriorly. This leads to a reversal of the position for the respiratory current of air.

Whereas one case is insufficient to form an opinion, it remains to be seen whether this is any disadvantage, as it may possibly seem to be, or is not.

A PRELIMINARY NOTE ON THE VORONOFF TESTICLE-GRAFTING OPERATION APPLIED TO A PEDIGREE BOAR.

By FREDERICK HOBDAY, C.M.G., F.R.C.V.S., F.R.S.E.,
Kensington W.

(*Hon. Veterinary Surgeon to H.M. the King, and formerly Examiner in Surgery to the Royal College of Veterinary Surgeons.*)

The work of Dr. Serge Voronoff in connection with the rejuvenation of human and other patients by various forms of gland grafting is well known, not only to the medical and veterinary professions, but also to the lay public, and a number of the latter have already voluntarily submitted themselves to operative procedure in the hope of finding by this means renewed mental vigour and sexual potency, so as to regain their lost youth. On animals, however, as an operation of practical value it has not yet been reported upon to any very great extent, and the following case of an attempt to apply it to a practical purpose will be read with interest by the readers of the Veterinary Journal.

The subject was a pedigree boar, three years old, whose services to a considerable number of sows had only resulted in two pregnancies. The animal had always been keen on service, and I am indebted to Captain Leslie Pugh, B.Sc., F.R.C.V.S., for the following note :—

" On October 9, 1923, I examined him when turned out with a sow in œstrum. He took very little notice of her, and I was unable to get a sample of the semen on this occasion. On October 25th,

after trying with a sow for over two hours, a sample of semen was obtained. No spermatozoa could be detected in fresh or stained preparations. The boar was placed on a poly-glandular mixture containing thyroid, pituitary and testicular extract, with fortnightly courses of Nux Vomica alternated with Yohimhine preparation every four days. No special improvement was noticeable except that the boar seemed more active sexually. On February 3, 1924, a sample of semen obtained and examined microscopically showed many pathological spermatozoa, but no healthily shaped ones. Their shape was somewhat curious to look at, as in every sperm looked at, the head presented a constriction about the middle, and in the majority of cases the tails had become detached."

From Dr. Hankin, D.Sc., of Norwich, I have on several occasions received translations and other notes of Dr. Voronoff's work, and Mr. Ivor Back, the well-known London surgeon, gave me in person a detailed description of the technique of the operation, which I followed faithfully.

As the owner of the boar was very anxious to try the effect of gland-grafting on this particular animal, it was decided to operate, and this was done on March 9th last, in the presence of Mr. Ivor Back, my partner, Mr. H. Stainton, F.R.C.V.S., and Captain Leslie Pugh, B.Sc., F.R.C.V.S., the latter two gentlemen acting as anæsthetists to administer the chloroform to the "Receiver" and the "Donor" respectively. The "Receiver," of course, was the boar whose procreative power it was desired to strengthen, and the "Donor" was a pure bred vigorous pig of the same breed, about ten months old, which was not considered of sufficient quality to be kept as a stud boar, and which it was therefore necessary to castrate in order that his flesh might be utilisable for human food.

The technique of the operation was as follows:—

Each animal was chloroformed, and the two were then laid side by side with sufficient space between their hindquarters for the operators to work. All instruments were carefully sterilized, and the usual precautions were taken as is necessary for any antiseptic operation. After preparing the site of incision in each case, a testicle of each respective animal was exposed completely, each being laid on a sterile cloth. Sections like the quarters of an orange were then removed from the testicle of the "Donor" and sutured with sterilized catgut on to the external surface of the testicle of the "Receiver," a fourth graft being "marsupialised" on the under surface. The *tunica vaginalis testis* of the "Receiver" was then sutured carefully over the grafts with catgut, and the external skin was sutured with silkworm gut, the place being afterwards treated as an ordinary

surgical wound. The "Donor" was then castrated, and each animal was allowed to come out of chloroform. Recovery of both was uneventful; there was no fever temperature and, with the exception that there was a certain amount of swelling during the first three days in the "Receiver," and that the posterior part of the testicle appears to be adherent to the overlying skin (without, however, causing any discomfort or inconvenience, even during the act of service), recovery has been complete and uneventful.

On May 8th he served a sow with great vigour, and the result of this and other services will be made the subject of a future note at a later date.

A NEW OVARIAN OPERATION FOR NYMPHOMANIA IN A GOAT.

By FREDERICK HOBDAY, F.R.C.V.S., and HAROLD STAINTON, F.R.C.V.S.,
Kensington, W.

Questions affecting the breeding of pedigree stock are of very great national, as well as individual, importance; as where an animal is worth several hundred pounds when in the stud its value if a non-breeder is only its working value, or the price which can be obtained from the butcher.

Amongst the various causes of sterility, persistent nymphomania stands out well in the front of those which worry the owners of valuable studs and herds, and the following observation, made upon a goat valued at £100 if right, and only a few shillings in the condition in which she was when our attention was drawn to her, is worth recording as a pioneer idea, to be followed up in future similar cases if only for the successful sequel which followed it.

The patient is a well-known female goat, "Didgsmere Dancer," registered in the *Herd Book*, and it is to the owner that we are indebted for the following particulars before the animal was taken in hand by us:—

"Born on March 12, 1921, weighing 8 lb. at birth, and twin to a male weighing 11½ lb.

"She grew steadily, but rather slowly, for the first six months of her life, and after that grew fast until about fifteen months old, when she had outgrown all the others of the same age. She came in milk about thirteen months old, but never milked very heavily, having to be milked daily during the spring and summer. As a kid she came in season quite regularly and normally.

"As a goatling she came into season on September 19, 1922, but was not mated owing to the male I wanted to use not being here; she came

on again October 10th, and for the same reason was not mated again. On October 29th she was mated, and subsequently on the following dates: November 5th, November 12th, November 19th, December 6th. December 16th, December 25th, January 3rd, January 9th, and January 15th. She was mated to three different males—an adult, a buckling, and a male kid. From January 15th she was incessantly in season, calling and very excited, and worrying any other goat she could get to; it was possible to mate her at any time. She was then put through a course of medicine, isolated from the other goats, and given hard routine exercise as part of her treatment.

"As all this failed to have any effect, she was sent to hospital for operation on March 20, 1923, and fetched home on March 22nd. She travelled standing up in a Ford van. The wound was painted with iodine daily, and healing was uneventful.

"By the beginning of May she had come into milk again, and by the time she had changed her coat in the early part of July there was no sign of the wound. She came in season, for the first time after her operation, on August 31, 1923, and was mated to a buckling on September 8th; she came in season again, and was mated to a kid, the result being two male kids, weighing 11 lb. and 6¾ lb. respectively at birth, on February 5, 1924. These are both still alive, and 'Didgsmere Dancer' is behaving exactly like any other normal mother."

The Operation.—This consisted, first, in performing laparotomy, under chloroform anæsthesia and the usual antiseptic precautions, in the left flank, introducing the hand and pulling each ovary in turn into view. The left one had thirteen cysts visible on the exterior of the ovary. These were, each one in turn, punctured with a sterile scalpel; the ovary was massaged, and then returned into the abdominal cavity.

The right ovary had only four cysts visible on the exterior, one having quite a long pedicle; but there was a large one, the size of a good-sized pea in the centre of the ovarian tissue. This was massaged, and had pressure put upon it until it bursted, the others were pricked with the scalpel, and the ovary was then returned to join its fellow in the abdomen.

The abdominal wall was sutured in the usual way, and the parts painted each day with iodine, recovery (with the exception of a little swelling, which never gave any cause for uneasiness) being uneventful.

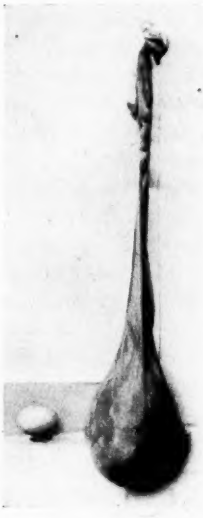
XUM

Clinical Articles.

AN INTERESTING CRYPTORCHID.

By GEORGE ELMES, F.R.C.V.S.,
St. Albans

THE patient was a two-year-old shire colt with right testicle in abdomen. When operating I could trace the cord portion of the cyst, which was about the size of a broom-handle, and composed of large veins and a big cremaster muscle as far as the cyst itself, with arm in abdomen up to the shoulder, but tension of the cord failed to pull the cyst forward. The animal died forty-eight hours afterwards from strangulated hernia of the small bowel in the operation wound.



On post-mortem the spermatic cord and testicle were found, but the testicle was so small and flaccid that it was scarcely distinguishable a short distance along the cord passing to the cyst, which rested upon the diaphragm. The weight of the whole was 5 lb., length of cord to end of cyst 27 inches, diameter of cyst 7 inches.

The hen's egg at side gives some idea as to the comparative size of the cyst and testicle.

REDUCTION AND TREATMENT OF DISLOCATION OF THE SHOULDER JOINT AS PRACTISED IN VENEZUELA.

By E. MORGAN, F.R.C.V.S., D.V.H.,
Puerto Cabello, Venezuela.

O'er ocean and o'er continent, mysterious fruit are seen,
Forthbudding from ideas of different casts and creeds.

THE methods in vogue of treating some diseases of animals in Venezuela remind one of those mentioned in old English veterinary literature, as quoted by Sir Frederick Smith in his recent *History*.

Luxation of Shoulder Joint of a Horse.—A few weeks ago, while staying overnight at a cattle-ranch in the interior, my attention was drawn in the early morning to a horse standing as quiet as a bronze statue in a field near the homestead. On closer examination it was found to have his front legs tied together in the natural position by means of a lasso, which was placed in figure-of-eight (8) fashion

above the knees ; also a thick tape or seton had been inserted at the sternal point of the animal's breast. Upon questioning the manager of the ranch, I was informed that the horse had dislocated its shoulder joint about a week previously when galloping over uneven ground whilst rounding wild cattle.

He then described the usual treatment as performed in this particular case, which took them three hours before they succeeded in replacing the joint.

The first procedure is to tie a rope around each fore leg of the horse and then lift them up fairly high. This is done either near a wall or the rope is thrown over a branch of a tree, so as to have a good support while the combat lasts. In the meantime, and while

HORSE UNDERGOING AFTER-TREATMENT FOR DISLOCATION OF LEFT SHOULDER JOINT.

After the joint has been replaced, the legs are tied together so as to prevent movements, and a seton is inserted as seen in photo at the sternal point of breast. These remain as such for fifteen days.

this struggle is going on, one or two men are manipulating the leg and making forcible efforts to push the bones back to their normal position. When they satisfy themselves that the dislocated bones have been replaced in their normal position, the fore legs of the animal are allowed to touch the ground and are then tied and the seton inserted as already stated. The legs are tied so that the animal cannot move the injured joint, and the seton is inserted so as to drain all bad humour from the part ! Both legs and seton are kept in this position for fifteen days. When I saw the animal, the joint to all appearance was in its normal position, but I cannot state whether

it had been dislocated or not. Judging by what I saw at the same ranch the same morning, I am rather doubtful whether many so-called cases of dislocations are correctly diagnosed. They brought my horse up from the field, and he was hardly able to place his hind foot on the ground due to sprain of the fetlock, which they would insist in saying was dislocation or displacement of the patella of the stifle joint. To their surprise this got better in about four days' time by simply applying cold water around the fetlock, and the horse was able after a rest and this simple treatment to proceed on the journey.

BOWEL PROLAPSE AFTER CASTRATION.

By G. SIMONS, M.R.C.V.S.,
Lancaster.

SUBJECT: YEARLING SHIRE COLT.

Large Right-sided Rupture at Birth. Apparently Disappeared at Six Months.—In examining the scrotum previous to operating, there was rather an abnormal amount of fluid noticed, whilst the right inguinal ring was somewhat dilated, but no bowel could be felt.

The colt was cast in the usual manner and chloroformed and the testicles removed by actual cautery, and with the object of avoiding risk, the coverings of the right cord were brought together with sterile ligatures. The colt was then allowed to rise and everything appeared quite normal until he had walked about a hundred yards, when my attention was called to the fact that a loop of bowel had appeared through the left scrotal wound. By the time I reached the animal at least 3 feet had protruded. Two clean bed-sheets wrung out of warm Lysol solution were used to suspend the prolapsed mass, the casting ropes adjusted, and the chloroform muzzle with 2 ounces of chloroform applied without moving the colt. Fortunately very little struggling took place—the colt falling where he stood—although about two or three more feet of bowel was forced out. Fortunately the skin of thighs and groin had previously been carefully prepared with tinct. iodine, and after thoroughly douching the prolapsed mass with Eusol reduction was attempted. By manual manipulation externally it was found quite impossible to return anything. With my assistant's arm in the rectum again no progress was made, then with the right arm in the rectum and by working the bowel towards the ring with the left I managed to return a few inches, after which further reduction by this method was impossible. The only chance now seemed to be by enlarging the ring, and this was done by cutting the anterior angle with a blunt-pointed bistoury. The remaining

bowel then returned more or less easily. After flooding the canal with Eusol the tunica vaginalis was sutured with strong sterile whipcord, leaving the ends 8 or 9 inches long to facilitate their removal. The colt was then once more allowed to rise. After-treatment consisted in maintaining free drainage, syringing out with Eusol, and removing the sutures after ten to fourteen days. Apart from refusing food on the fourth day, the animal made an uninterrupted recovery.

Remarks.—It is peculiar to note that though the right ring was dilated and the left ring normal, it was on the left side that the prolapse occurred. This fact was also observed by a neighbouring practitioner, my assistant and the owner.

FRACTURE OF THE INFERIOR MAXILLA.

By S. J. MOTTON, F.R.C.V.S.,
Penzance.

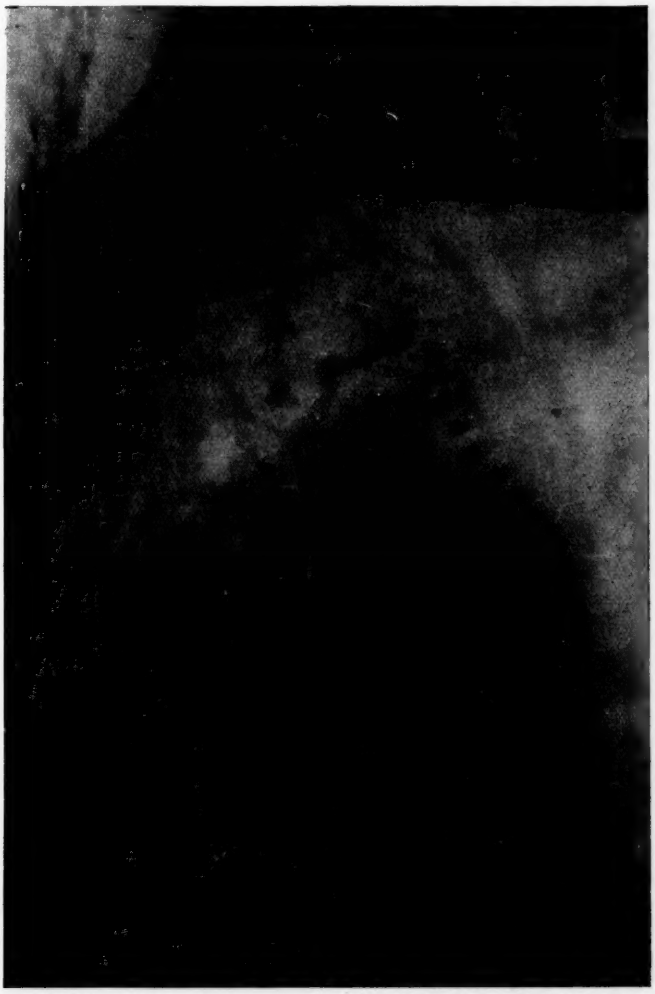
A TOURING car ran over the head of a Pomeranian dog, aged thirteen years. Each ramus of the inferior maxilla was fractured through the alveolus of its largest tooth, the carnassial, and the anterior part of the jaw hung like a flap from the points of fracture. The animal was anæsthetised and the two carnassial teeth, which were quite loose, were removed together with several small pieces of bone. This left a distinct gap between the fractured ends of each ramus. The dog was old, and the teeth immediately in front of and behind the large ones had long since dropped out. The hair was removed from the skin in the inter-maxillary space, and the space was filled with lead and pitch plaster and layers of canvas. When level, a strip of canvas was stuck to the material filling the inter-maxillary space, and was carried forward on to the chin. Other two layers of canvas were stuck over this, and when the plaster had cooled it left the jaw in very fair alignment. The dog was kept on soft food for a period of four weeks, by the end of which time the bone ends had united, although the union did not appear to be very strong. However, no further treatment appeared to be necessary beyond preventing the animal from playing with bones or balls, or from eating hard biscuits. The plaster had been readjusted at the end of ten days, but at the end of a month it was becoming loose at the edges, and the owner was advised to trim the edges with a scissors every day or two. Twelve months have now passed since the accident, and the dog can lay hold of a ball or bone and pull without inconvenience. The jaw is in almost perfect alignment, and with his mouth shut it is almost impossible to see that the jaw has been injured. On looking into the mouth one sees on each side a small enlargement marking the healed places.

XUM

CANINE FŒTUS IN UTERO.

By G. E. DYAS, M.B., D.M.R.E. (Cantab.), and F. CHAMBERS, O.B.E., F.R.C.V.S.,
Wolverhampton.

The accompanying skiagram clearly shows the fœtus in a fox-



hound bitch. She had gone over her time to the extent of twelve days and showed no signs of whelping. As the huntsman suspected the

presence of a dead pup, it was decided to have an X-ray picture taken. The interest of this case, from a radiologist's point of view, is the fact that it is only by means of a special device, the Potter Bucky Diaphragm, that the fœtus in utero can be easily seen. Owing to the thickness of the parts, the presence of the liquor amnii, and the small amount of ossification of the fœtal bones, unless this diaphragm is used, the amount of secondary and scattered X-radiation, which always occurs in making skiagrams of such cases, causes fogging of the plate and obscures the image of the part desired. By this device only the parallel rays are allowed to reach the plate. Recently the use of this diaphragm for the diagnosis of the position of the human fœtus in utero has been described (Candy, *British Journal of Radiology*, October 1923). After the plate was developed the bitch was placed on the operating table and the os uteri was partially dilated. An injection of pituitrin was given, and the bitch gave birth to a very large dead puppy two hours afterwards. Recovery was uneventful.

OBSTRUCTION CAUSED BY A RAT'S HEAD IN THE COLON OF A CAT.

By A. McLEAN, M.R.C.V.S., D.V.H.,
Belfast.

History.—I was asked by Mr. Elam, M.R.C.V.S., D.V.H., to see this patient, an aged male cat which had a history of not having passed any fæces for some days; and on manipulation of the abdomen a solid mass could be felt. The patient presented a very dejected appearance. Several doses of oil had been given without any result. I advised an exploratory laparotomy.

Operation.—After usual preparation, the abdomen was opened half-way between the umbilicus and os pubis. The colon was found to be impacted with a solid mass and was deeply congested practically throughout the whole of its extent. It was evident from the appearance of the viscera that the case was hopeless. An incision about 1 in. long was made in the bowel parallel to its long axis and the mass removed. The wound in the bowel was sutured Lembert fashion and the part swabbed with normal saline, and the abdominal wound closed as usual. The patient died the next day. On examination the impacted mass proved to be a rat's head.

XUM

PROLAPSE OF THE RECTUM.

By G. MAYALL, M.R.C.V.S.,
Bolton.

PROLAPSE of the rectum is stated by some authors to be very common in the dog and cat. My cases have almost invariably been in the dog and pig, and although handling many cats yearly I have as yet not seen the condition in the feline. It is one of the most frequent cases the general practitioner has to deal with, and perhaps with many of us one of the most unsatisfactory. From a pretty wide reading I gather that a big percentage of Continental men who run clinics, and can do what they like with their patients, perform laparotomy and suture the bowel to the abdominal wall. They claim a high percentage of successes from this procedure. The general practitioner, however, from motives of mistaken humanity or expense on the part of his client, is often forbidden to anæsthetise the dog and cut into it. Consequently he is limited to reposition or amputation of the rectum. I have had more successes by amputation than reposition, but the percentage of recoveries has been low in both instances, and certainly not above 30 per cent. Maybe this is only what one must expect when one considers the numerous causes that bring about prolapse—local hyperæmia anterior to the anal opening, constipation, diarrhœa, parasites, excessive use of drastic worm medicines, catarrh of the bowels (chief cause in puppies), and bacterial infection, and weak rectum and sphincter muscle. Nevertheless it seems to the writer that we ought to secure a greater percentage of successes than we do. An enumeration of these cases and statistics on the methods of dealing with them, and the results, would be useful as a guide to the general practitioner. What is the best method in detail of returning a prolapse, what after treatment of the bowel is necessary, and what is the best food to give the dog? The irritable state of the bowel ought to be overcome for a time if any recurrence of the prolapse is to be avoided, and it was with this thought in my mind that I tamponed my last two cases, about 6 to 8 inches up the bowel, with cotton wool soaked in quinine and urea hydrochloride. I have been gratified by the successful result in these two cases up to the present. I used the quinine and urea hydrochloride because of its prolonged anæsthetic effect, and because I have a somewhat large stock of it on hand at the present time. Incidentally, the advent of local anæsthetics has been a godsend to the general practitioner. In not a few cases an obstinate diarrhœa, continuous and hard to stop, has followed reposition of the bowel. This I have dealt with by the use of Bayers' " Pulbit " (Millward's Merchandise, Ltd., Manchester), rice puddings, milk diet, and arrowroot biscuits. The bowel in most

cases has been returned by means of a wax candle rounded off at the end, the viscus previously being cleansed and, as far as possible, aseptic-ised with Eusol. Now as to amputation. I was greatly dissatisfied with the results of several of my earlier cases both in the pig and dog; peritonitis arose, and in one or two instances the sutures did not hold the severed ends of the bowel together. I am of opinion that if the bowel wall is fairly healthy, four holds on it by sutures as given in most text-books is not enough, whereas if it is inflamed and infected the attachment is quite too slight. To allay all pain, congestion and irritation as far as possible is the first wise step in dealing with pro-lapse, and to this end I have often used adrenalin, cocaine and adrenalin (anasthene Wyley), and lately quinine and urea hydrochloride. The plan given by O. V. Brumley in his *Diseases of the Small Domestic Animals* is then adopted. He draws the prolapsed bowel out a little and applies a small rubber tube as a tourniquet close up to the anus. He makes "a circular incision through the external intestinal wall posterior to the tourniquet and parallel to the anal margin. Seize the severed external tube at the anal margin with small hœmostatic forceps to prevent its retraction and draw it out gently to bring its serous coat in contact with the serous coat of the internal tube. These two surfaces should be sutured, using sterilised catgut, silk (perhaps best), or linen, making interrupted sutures *the entire circumference* of the incised portion. Insert stitches only through serous and muscular coats. When this is completed the outer tube is cut off with the scissors distal but close to the row of stitches. (So far this is pretty well what we all do.) But Brumley further states: "The mucous surfaces are then approximated with continuous or interrupted sutures and the stump thoroughly cleansed with antiseptics and returned within the anus." Communications on this subject from other prac-titioners would be interesting and welcome, and the surgeons in our ranks ought to lead the way in dealing with this particular accident, for as compared with the human being our subjects furnish a legion of cases.

CASTRATION OF THE "RUPTURED" BOAR.

By J. F. D. TUTT, M.R.C.V.S., F.L.S., F.Z.S.,
Winchester.

THE common method of suturing the scrotum after removal of the testicle in the ruptured male pig is anything but satisfactory, as the stitches often give way, and the bowels protrude. The only satis-factory way is to close the internal abdominal ring. The procedure, for this, which is applicable to all ages, is as follows:—

Preparation.—Wherever possible have the animal fasted for

twenty-four hours before. This is, however, more important in the older animal, as in pigs just weaned my experience has been that this is immaterial, and not always possible.

Restraint.—Suspend the pig by means of two ropes, or straps, looped above the hocks and attached to a beam above, the pig hanging just high enough so that the operative field will be opposite the operator's breast.

Instruments, etc.—Ordinary scalpal or castrating knife, emasculator (in the older pig, one with an extra crushing attachment, such as Dunn's Triple Safety, is best), strong suture needles, and London Hospital twenty-day sterile ultratan catgut.

Technique.—Having observed the usual antiseptic precautions, and disinfected the operation site with tincture of iodine, locate the internal abdominal ring, either by pressure applied externally in the inguinal region, or by pulling on the testicle that side and feeling the course of the cord. Having located the ring, cut down through the skin and subcutaneous connective tissue down to the muscular coat of the abdominal wall. There is little or no hæmorrhage throughout the operation. The incision need not be more than 4 or 5 inches, and its centre should be directly over the centre of the internal abdominal ring.

The intestines, in most cases, will have by gravity returned to the abdominal cavity, but if not, this is readily done with the fingers. The cord is now picked up and severed with the emasculator and its stump dropped back into the abdominal cavity. The cord and testicle can now be withdrawn through this incision, or (and I usually prefer it) a second incision can be made later, as in ordinary castration, into the scrotum, and the testicle removed. It is not always possible to carry out the former. The internal abdominal ring is then closed by means of a "purse string" suture of catgut (twenty-day), bringing the serous surfaces of the peritoneum into close apposition. Closely placed interrupted ones can also be used instead if desired. The skin incision is then closed with interrupted sutures.

After-Treatment.—Keep in a clean pen. The wound rarely requires any attention. A fair amount of swelling occurs in some cases, but disappears. A full description, with photographs, of this operation will be found in Dr. G. R. White's *Animal Castration*, from which I have made up my description of it, owing to the very clear way in which he describes it.

Translation

LUXATION OF THE EYE IN A DOG.

By VETERINARY SURGEON N. PLUM,
Copenhagen.

A SMALL mongrel had a fight about a bone in the street with another dog and came home with luxation of the eyeball. Seventeen and three-quarter hours after the bulbus was intensely swollen, the cornea and conjunctiva were dry and rough, and at the medial side of the cornea there was a severe injury. The eyeball was put back and the lid sutured. This was removed after two days. The bulbus was not yet in its place, and the dog had a marked external squint. The cornea was quite gray and its vessels greatly dilated. During the next few days the eye was massaged through the eyelid with ung. oph. flav. After a few days the eye was movable; after three weeks its movement was normal and the eye had assumed its right position. The first fourteen days the cornea improved, but then bulged more and more from the injury. To ward off danger of perforation of the cornea 2 per cent. physostygmine solution was trickled into the eye twice daily. In spite of this the corneal wound threatened perforation more and more. On this account the advice of the eye specialist, Dr. Edmund, was sought. This expert declared that physostygmine only lessened intraocular pressure in glaucoma and not on the normal eye, and that in this case atropine must be employed, and by use of this agent the iris retracted, and any perforation of the cornea and prolapse of the iris was avoided; for in such a case the danger of an infection of the anterior chamber of the eye was very great. The cornea was treated by Dr. Edmund over its whole surface with Wesselys steam thermo-cautery (this instrument is similar to Paquelin's benzene thermo-cautery only that the heat at the point is furnished by superheated steam). This caused it to become dry and parchment-like. Five per cent. noviform ointment was rubbed in daily. Under this treatment the cornea soon cleared up, and after two months' daily treatment with noviform ointment only a dimness remained in the deeper layer of the cornea. Eight months later an examination of the eye with the ophthalmoscope showed it to be normal.—(*Maanedskr for Dyrlaeg* **35**. pp. 573–576.)

Abstracts of Current Literature

Minett, E. P.—Control of Food Supplies in the Tropics—*Transactions of the Royal Society of Tropical Medicine and Hygiene*, November 16–December 21, 1922.

It is well known that the quality of tinned foods retailed in remote country districts leaves much to be desired, and the only remedy appears to be constant inspection, personal supervision of the destruction of condemned articles, and an attempt to trace the source of suspicious brands to the port of entry, with an examination of the suspected goods on entry to the colony. This is being carried out in British Guiana, as far as the limited and scattered sanitary staff permits, with the loyal support of the municipal authorities. Salt pork, salt beef, salted and dried fish, all imported, form a staple diet of many of the poorer class of this colony, and require constant close supervision. Frequently, barrels of the above foodstuffs rapidly deteriorate and go rancid in a tropical climate, especially with the humidity present in this colony, where drainage is defective or absent in most villages, and the rainfall in the neighbourhood of 100 inches per annum. The greatest vigilance is necessary to prevent these unsound foods being sold at a cheap rate in order to avoid seizure and destruction. Recent legislation is now being enforced to compel all vendors of cakes, sweetstuffs, etc., to expose these articles for sale under glass cases, in order to avoid contamination by flies, dust, etc., from the public road. Another advance, which will shortly come into force, is that all fresh meat, fish, shellfish, etc., must be disposed of by auction at 4 p.m., if not previously sold, on the same day as the meat is killed or the fish, etc., brought to the public market. The object of this regulation is to do away with the practice of keeping unsold meat in the ice chest until the following day, when it is again exposed for sale, with its many and very obvious disadvantages and dangers.

Fresh meat in the country districts is controlled by a system of Government abattoirs, erected at special places throughout the colony, and easily accessible to the neighbouring butchers.

The people are rapidly learning to demand meat with the stamp on it. They call it "Government meat," and consequently butchers outside the area are encouraged to bring their animals to the abattoir for slaughter in order to compete with their rivals who tell the people that only "stamped" meat is good meat. This idea, needless to say, is not discouraged by the Health Department, as we hope gradually to have practically the whole of the meat supplies of the colony under control by centralising the killing in the

Government abattoirs in the country districts and in the municipal establishments in the two large towns of the colony.

The Sanitary Inspectors and the Government abattoirs are under the personal control of the three County Sanitary Inspectors, who hold the certificate of Inspector of Meat and Foods granted by the Royal Sanitary Institute, and are directly responsible to the Government Medical Officer of Health for the supervision and training of their subordinates, many of whom also hold Royal Sanitary Institute certificates.

The question of milk supplies forms the subject of special legislation and control in the colony.

Leve-Oels.—Remedying the Faulty Carrying of a Cropped Ear in the Dog. —*B.T.W.*, 1923, p. 479.

THROUGH faulty cropping one ear of a German dog hung with the upper half drooping. Following the principle of the entropium operation, the author sought to remedy the defect by cutting out a sufficiently large fold of the skin at the base of the ear. Not only was the position of the point of the ear rectified, but by taking out a second piece of skin at the front its direction forward was set right and a complete harmony with the other ear secured. To avoid tearing out of the sutures and drooping of the ear, the author stitched both ears together in the usual way.

Personal

CONGRATULATIONS to Captain Adrian Jones, M.R.C.V.S., the distinguished sculptor, on the acceptance by the authorities in London of his very fine bronze statue of St. George and the Dragon, which has been erected at Stanhope Gate. It may not be generally known by the profession that Captain Adrian Jones, who was once Veterinary Officer to the Life Guards, has contributed a number of beautiful landmarks to London, including the Quadriga, which faces Hyde Park Corner, and a South African War Memorial tablet to the Dragoon Guards erected opposite the Lister Institute.

Mr. CHARLES MOCHATTEE, M.R.C.V.S., D.V.S.M., has been appointed Assistant Director of the Veterinary Department in Iraq, and Mr. C. H. Ducksbury, M.R.C.V.S., D.V.S.M., Assistant Veterinary Inspector to the City of Sheffield. Both are recent Graduates of the Royal (Dick) Veterinary College, Edinburgh.

CONGRATULATIONS to Dr. George Hilton, our Canadian colleague, who has been appointed Veterinary Director-General of the Canadian

Veterinary Department in place of Dr. Fred Torrance, who retired a few months ago.

RESEARCH scholarships in agricultural and veterinary science, of the value of £200 per annum, tenable for three years from October 1, 1924, will be awarded by the Ministry of Agriculture and Fisheries. Applications must be received by the Ministry not later than July 15, 1924, and must be made on the prescribed form, which, with a copy of the conditions attached to the scholarships, may be obtained from the Secretary, Ministry of Agriculture and Fisheries, 10, Whitehall Place, London, S.W. 1. The number of scholarships awarded will not exceed seven.

MAJOR-GENERAL PLADAR MCMAHON, Chief of Staff of the Irish Free State Army, was married a few days ago to Miss Annie Parkinson, the daughter of Mr. J. J. Parkinson, a well-known racehorse owner and veterinary surgeon on the Curragh.

Obituaries

SINCE our last issue the hand of death has pressed heavily on the senior members of the profession, and it is with sincere regret that we have to record the "passing" of two prominent Members of Council, Mr. W. J. Mulvey, J.P., F.R.C.V.S., and Mr. T. Salusbury Price, M.R.C.V.S., and one who acted several times as a Member of the Examining Board, Mr. A. Spreull, J.P., F.R.C.V.S.

Mr. W. J. Mulvey, J.P., F.R.C.V.S.—Well known in London for many years as a successful practitioner, Mr. Mulvey had previously practised in the county of Durham, having graduated in London in 1867, taking his Fellowship in 1885. For nearly forty years he had been a Member of Council, being elected President of the College in 1892, and since 1908 he had held the purse-strings of the Royal College in the important capacity of Treasurer. A regular attendant at meetings, his presence was always to be relied upon, and his judgment on any topic of importance connected with the welfare of the profession was always tempered with common sense and listened to with respect. No one in the profession ever put more earnestness in his desire for its advancement than did Mr. Mulvey, and the respect with which his name was received outside the profession was well illustrated in the prominent positions to which he was elected in the district in which he lived, and elsewhere. For many years he was a Chelsea Borough Councillor and Chairman of the Public Health Committee, and as a crowning point in his municipal career he was elected Mayor to this ancient Borough of the South-West District of London. By his death the profession will feel that it has lost one of its stanchest pillars, and in the Council itself his place will be hard to fill. The students, too, will miss a good friend, for he was always ready to give them sound advice.

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Mr. T. Salusbury Price, M.R.C.V.S.—"A man without a single enemy," either in or out of the profession, may well be the term applied to the late Mr. T. Salusbury Price, M.R.C.V.S., for his generosity in a good cause and his ever ready willingness to help a truly deserving case were proverbial amongst those who knew him. Qualifying in London in 1868, he settled down in practice there, and although he soon acquired a large *clientèle*, he found time also for municipal duties as a member of the Lambeth Vestry. His qualifications as a successful business man were recognised by his appointment as Chairman of the Directors of the London Horse and Carriage Repository, and his generous heartedness was shown on more than one occasion by his contributions to various benevolent and other funds connected with the advancement of the profession. A Member of the Council of the R.C.V.S. since 1912, he has died in harness, and his common-sense opinions on behalf of the general practitioner will be much missed by his colleagues.

Mr. A. Spreull, Senr., J.P., F.R.C.V.S.—Graduated in Edinburgh in 1869, and settled down at Dundee, where he for many years had a very large and influential *clientèle*. For many years he has held the position of a Justice of the Peace, a Governor of the Dundee Veterinary College, and an Examiner of the Highland Agricultural Society; he had also, on several occasions, been selected to act as deputy on the Board of Examiners of the Royal College of Veterinary Surgeons.

Mr. J. J. Ross, M.R.C.V.S.—Mr. Ross was a graduate of the Glasgow Veterinary College, qualifying in 1883. He was associated in Belfast with the late Mr. Dunlop, M.R.C.V.S., and it was on their premises that the first experimental pneumatic tyre was made. His partner at the time of his death was Mr. J. Ewing Johnston, M.B.E., M.R.C.V.S. Mr. Ross was for many years Municipal Veterinary Inspector to the City of Belfast, and his word on veterinary matters was always listened to with very great respect by the City Council.

Two medical men who have always given support to our profession whenever opportunity occurred, and whose deaths have recently been recorded, are **Professor Shattock,** of the Pathological Department, St. Thomas's Hospital, Curator of the Royal College of Surgeons Museum; and **Dr. Hammond Smith,** formerly a practitioner in Stourbridge, who had been since his retirement from active practice the editor of the Department of Avian Pathology for the *Field*. It was the latter gentleman who was one of the three originators of the present Distemper Research Fund, which is being so ably and energetically managed by the Editor of the *Field* at the present time.

Preparations and Appliances

"Borosalt," of which the formula is stated to be as follows:—

73 to 74 per cent. of Sodium Monoborate.

1 to 2 per cent. of Sodium Diborate.

25 per cent. of Sodium Chloride (and which is described as an alkaline-saline antiseptic deodoriser and cleanser; a non-poisonous

and non-corrosive, iso-tonic curative dressing and healing wash) has been under test clinically for some considerable time, and has been found to make an excellent and useful lotion in the treatment of wounds. It is particularly valuable in that it is non-irritating and non-toxic, and can be used to such delicate parts as wounds of the cornea or wounds of the mouth and mucous membranes.

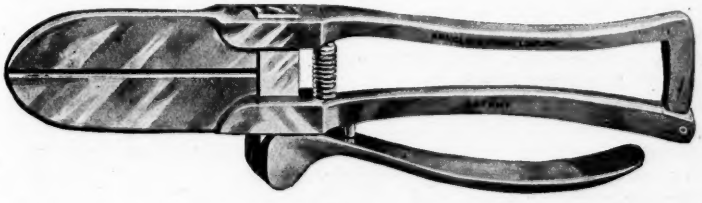
It does not corrode instruments, and is dispensed in a most convenient form in ¼ lb. tablets, each of which will make a gallon of lotion of useful and non-irritating strength.

The manufacturers are Messrs. Chas. Billings & Co., Wholesale Chemists, 88 New North Road, London, W. 1.

Adrenalin "Ciba" (Synthetic). This preparation of Adrenalin, which is stated by the manufacturers (The Clayton Aniline Co., Ltd., Pharmaceutical Department, 68½ Upper Thames Street, London, E.C. 4) to be prepared by an entirely new process and to meet all the requirements of the British Pharmacopœia, has been under clinical test for some time, and has given every satisfaction in the results attained.

A NEW PATTERN OF EMASCULATOR.

The Bloodless Castrator in use at the present time requires considerable effort in use, and when it is to be used for a number of animals the manual efforts required become of considerable moment; moreover, there is a disadvantage with such an instrument, as the operator has to grasp the handles when in an approximately vertical



position. We are advised by Messrs. Arnold and Sons, of 52 Wigmore Street, W. 1, that after two years' experimental work they have produced and patented a castrator on an entirely new principle. This, we are informed, is of simple construction, is used in a horizontal position, instead of vertical, and possesses a greater advantage of leverage. The instrument, which is illustrated above, is made in two sizes.

R.A.V.C. ANNUAL DINNER.

THE annual dinner of the Officers of the Royal Army Veterinary Corps will be held at the Hotel Cecil on Friday, June 20, 1924, at 8 p.m. Officers of the Militia, Territorial Army and Temporary Officers are eligible to attend. Subscriptions: subscribers, 15s.; non-subscribers, £1 10s. Apply to the Hon. Secretary, R.A.V.C. Dinner, Caxton House (West), Tothill Street, S.W.1.

FEDERATION OF MEDICAL AND ALLIED SERVICES ANNUAL DINNER.

THE Annual Dinner of the Federation of Medical and Allied Services has been postponed to Friday, June 20th, 7.15 p.m., to suit the convenience of the Prime Minister, the Right Hon. J. Ramsay MacDonald, M.P., and other official guests who will be present. Sir Berkeley Moynihan, Bart., K.C.M.G., C.B., M.S., will preside. Tickets 12s. 6d. each. Apply to the Secretary, 12 Stratford Place, London, W.1.

ROYAL (DICK) VETERINARY COLLEGE, EDINBURGH

Principal: **O. CHARNOCK BRADLEY, M.D., D.Sc., M.R.C.V.S.**

102nd Session.

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College Calendar, with full particulars of Examinations, Bursaries, etc., may be obtained from A. C. DOULL, C.A., Secretary.

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Letters for the JOURNAL, literary contributions, reports, notices, books for review, exchanges, new instruments or materials, and all matter for publication (except advertisements) should be addressed to the Editor.

Manuscript—preferably typewritten—should be on one side only of paper marked with full name of author.

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